

WHAT IS CLAIMED IS:

1 1. A filter for a plasma display panel, comprising:
2 a substrate;
3 a conductive material pattern formed on the substrate;
4 a negative photoresist pattern, patterned on the substrate on portions not covered by the
5 conductive material pattern to complement the conductive material pattern, the negative
6 photoresist pattern comprising a pigment and a dye that cuts off light in a specific wavelength
7 range, as well as a material that prevents external light from being reflected; and
8 a plated mesh formed on a conductive material pattern.

1 2. The filter of claim 1, the negative photoresist pattern comprising a material selected
2 from the group consisting of a transparent acryl group and a phenol group.

1 3. The filter of claim 1, the dye comprising an organic compound selected from the group
2 consisting of an imonium group and a phthalocyanin group, the pigment comprising an organic
3 compound of the imonium group, the dye blocking near infrared rays.

1 4. The filter of claim 1, the dye comprising an organic compound selected from the group
2 consisting of an imonium group and a phthalocyanin group, the pigment comprising an organic
3 compound of the imonium group, the dye blocking light having a wavelength near 590 nm.

1 5. The filter of claim 1, the combined thickness of the conductive material pattern and the
2 plated mesh formed thereon being in a range of 1 to 50 μm .

1 6. The filter of claim 1, wherein said material preventing the external light from being
2 reflected being selected from the group consisting of a metal powder and an inorganic metal oxide.

1 7. A method of manufacturing a filter for a plasma display panel, the method comprising
2 the steps of:

3 coating an entire surface of a substrate with a layer of a conductive material;

4 forming a predetermined positive photoresist pattern on the conductive material by
5 applying the photoresist, exposing the photoresist and developing the exposed photoresist;

6 etching exposed conductive material;

7 removing said patterned positive photoresist leaving a patterned conductive material on the
8 substrate;

9 coating said entire surface of the substrate having the patterned conductive material with
10 a layer of negative photoresist that comprises a dye and a pigment that cuts off light in a specific
11 wavelength range, the negative photoresist further comprising a material preventing external light
12 from being reflected;

13 exposing the negative photoresist by illuminating said substrate from a side opposite from
14 said surface containing said patterned conductive layer and the negative photoresist;

15 developing the exposed negative photoresist to form a pattern exposing said patterned

16 conductive material; and

17 forming a plated mesh on the exposed conductive material pattern by electrical plating.

1 8. The method of claim 7, wherein the negative photoresist comprises a material selected
2 from the group consisting of a transparent acryl group and a phenol group.

1 9. The method of claim 7, the dye comprises an organic compound of an imonium group,
2 and the pigment comprises an organic compound of the imonium group, the dye filtering out near
3 infrared rays.

1 10. The method of claim 7, wherein the dye is an organic compound of an imonium group
2 or a phthalocyanin group, and the pigment is an organic compound of the imonium group, the dye
3 blocking light having a wavelength of about 590 nm.

1 11. A method for making a filter for a plasma display panel, comprising the steps of:
2 forming a patterned layer of a conductive material on one side of a transparent substrate;
3 applying a layer of negative photoresist on said patterned side of said substrate;
4 exposing a pattern in said negative photoresist by illuminating a side of said substrate
5 opposite said patterned side;
6 developing said negative photoresist exposing only portions on said one side of said
7 substrate patterned by the conductive material; and

8 increasing the thickness of said conductive material on said one side of said substrate by
9 electroplating.

1 12. The method of claim 11, said negative photoresist forming a pattern that complements
2 said patterned conductive material.

1 13. The method of claim 11, said patterned conductive material being formed by forming
2 a blanket layer of conductive material, applying, patterning, and developing a positive photoresist
3 layer on the blanket conductive layer and then etching the conductive layer with patterned
4 photoresist thereon before removing the patterned positive photoresist.

1 14. The method of claim 13, said blanket layer of conductive material being formed by
2 sputtering.

1 15. The method of claim 11, adding additives to said negative photoresist prior to said
2 applying step, the additives serving to filter out near infrared wavelengths.

1 16. The method of claim 11, said patterned layer of said conductive material serves as a
2 mask in said exposing step.

1 17. A filter for a plasma display, comprising:

2 a substrate that is transparent to light;
3 a conductive mesh pattern formed on one side of the substrate; and
4 a non conductive material disposed on said one side of said substrate at locations absent
5 said conductive mesh.

1 18. The filter of claim 17, said conductive mesh and said non-conductive material having
2 equal depths between 1 and 50 microns.

1 19. The filter of claim 17, said non conductive material being negative photoresist
2 containing additives.

1 20. The filter of claim 17, said mesh being electrically grounded.

1 21. The filter of claim 17, said mesh having a grid pattern.

1 22. The filter of claim 17, said additives comprising a dye.